

J. Zaghmout

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RAW SEQUENCE LISTING DATE: 10/27/2000
PATENT APPLICATION: US/09/117,246 TIME: 13:45:01

DATE: 10/27/2000
TIME: 13:45:01

Input Set : A:\50062.004001.SEQLIST.TXT
Output Set: N:\CRF3\10272000\1117246.raw

4 <110> APPLICANT: Ludevid, Doloros
5 Torrent, Margarita
6 Alvarez, Inaki
7 Perez, Pascual
9 <120> TITLE OF INVENTION: Amino acid-enriched plant protein
10 reserves, particularly lysine-enriched maize gamma-zein, and
11 plants expressing such proteins
14 <130> FILE REFERENCE: 50062/004001
16 <140> CURRENT APPLICATION NUMBER: 09/117,246
17 <141> CURRENT FILING DATE: 1998-12-03
19 <150> PRIOR APPLICATION NUMBER: PCT/FR97/00167
20 <151> PRIOR FILING DATE: 1997-01-28
22 <150> PRIOR APPLICATION NUMBER: FR96/01004
23 <151> PRIOR FILING DATE: 1996-01-29
25 <160> NUMBER OF SEQ ID NOS: 11
27 <170> SOFTWARE: FastSEQ for Windows Version 4.0
29 <210> SEQ ID NO: 1
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31 <212> TYPE: DNA
32 <213> ORGANISM: Artificial Sequence
34 <220> FEATURE:
35 <223> OTHER INFORMATION: based on Maize
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40 <210> SEQ ID NO: 2
41 <211> LENGTH: 46
42 <212> TYPE: DNA
43 <213> ORGANISM: Artificial Sequence
45 <220> FEATURE:
46 <223> OTHER INFORMATION: based on Maize
48 <400> SEQUENCE: 2
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51 <210> SEQ ID NO: 3
52 <211> LENGTH: 17
53 <212> TYPE: PRT
54 <213> ORGANISM: Maize
56 <400> SEQUENCE: 3
57 Ile Glu Phe Lys Pro Lys Pro Lys Pro Lys Pro Lys Glu Phe Leu Gln
58 1 .
59 Pro
63 <210> SEQ ID NO: 4
64 <211> LENGTH: 28
65 <212> TYPE: PRT
66 <213> ORGANISM: Maize
68 <400> SEQUENCE: 4
69 Ile Glu Phe Lys Pro Lys Pro Lys Pro Lys Glu Phe Lys Pro
70 1 .

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71 Lys Pro Lys Pro Lys Pro Lys Glu Phe Leu Gln Pro
72      20          25
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76 <211> LENGTH: 20
77 <212> TYPE: PRT
78 <213> ORGANISM: Maize
80 <400> SEQUENCE: 5
81 Asp Gly Ile Asp Glu Phe Lys Pro Lys Pro Lys Pro Lys Glu
82 1           5           10          15
83 Phe Lys Leu Asp
84      20
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88 <211> LENGTH: 672
89 <212> TYPE: DNA
90 <213> ORGANISM: Maize
92 <220> FEATURE:
93 <221> NAME/KEY: CDS
94 <222> LOCATION: (1)...(672)
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98 Met Arg Val Leu Leu Val Ala Leu Ala Leu Ala Leu Ala Ser
99 1           5           10          15
101 gcc acc tcc acg cat aca agc ggc ggc tgc ggc tgc cag cca ccg ccg      96
102 Ala Thr Ser Thr His Thr Ser Gly Gly Cys Gly Cys Gln Pro Pro Pro
103      20          25          30
105 ccg gtt cat cta ccg ccg ccg gtt cat ctg cca cct ccg gtt cac ctg      144
106 Pro Val His Leu Pro Pro Val His Leu Pro Pro Pro Val His Leu
107      35          40          45
109 cca cct ccg gtc cat ctc cca ccg ccg gtc cac ctg ccg ccg gtc      192
110 Pro Pro Val His Leu Pro Pro Val His Leu Pro Pro Pro Val His Leu
111      50          55          60
113 cac ctg cca ccg ccg gtc cat gtc ccg ccg ccg gtt cat ctg ccg ccg      240
114 His Leu Pro Pro Pro Val His Val Pro Pro Pro Val His Leu Pro Pro
115      65          70          75          80
117 cca cca tgc cac tac cct actcaa ccg ccc cgg cct cag cct cat ccc      288
118 Pro Pro Cys His Tyr Pro Thr Gln Pro Pro Arg Pro Gln Pro His Pro
119      85          90          95
121 cag cca cac cca tgc ccg tgc caa cag ccg cat cca agc ccg tgc cag      336
122 Gln Pro His Pro Cys Pro Cys Gln Gln Pro His Pro Ser Pro Cys Gln
123      100         105         110
125 ctg cag gga acc tgc ggc gtt ggc agc acc ccg atc ctg ggc cag tgc      384
126 Leu Gln Gly Thr Cys Gly Val Gly Ser Thr Pro Ile Leu Gly Gln Cys
127      115         120         125
129 gtc gag ttt ctg agg cat cag tgc agc ccg acg ggc acg ccc tac tgc      432
130 Val Glu Phe Leu Arg His Gln Cys Ser Pro Thr Ala Thr Pro Tyr Cys
131      130         135         140
133 tcg cct cag tgc cag tcg ttg cgg cag cag tgt tgc cag cag ctc agg
134 Ser Pro Gln Cys Gln Ser Leu Arg Gln Gln Cys Cys Gln Gln Leu Arg
135 145      150         155         160

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137 cag gtg gag ccg cag cac cggtc tac cag ggc atc ttc ggc ttg gtc ctc 528
 138 Gln Val Glu Pro Gln His Arg Tyr Gln Ala Ile Phe Gly Leu Val Leu
 139 165 170 175
 141 cag tcc atc ctg cag cag ccg caa agc ggc cag gtc gcg ggg ctg 576
 142 Gln Ser Ile Leu Gln Gln Pro Gln Ser Gly Gln Val Ala Gly Leu
 143 180 185 190
 145 ttg gcg gcg cag ata gcg cag caa ctg acg gcg atg tgc ggc ctg cag 624
 146 Leu Ala Ala Gln Ile Ala Gln Gln Leu Thr Ala Met Cys Gly Leu Gln
 147 195 200 205
 149 cag ccg act cca tgc ccc tac gct gct gcc ggc ggt gtc ccc cac tga 672
 150 Gln Pro Thr Pro Cys Pro Tyr Ala Ala Gly Gly Val Pro His *
 151 210 215 220
 155 <210> SEQ ID NO: 7
 156 <211> LENGTH: 223
 157 <212> TYPE: PRT
 158 <213> ORGANISM: Maize
 160 <400> SEQUENCE: 7
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 162 1 5 10 15
 163 Ala Thr Ser Thr His Thr Ser Gly Gly Cys Gly Cys Gln Pro Pro Pro
 164 20 25 30
 165 Pro Val His Leu Pro Pro Pro Val His Leu Pro Pro Pro Val His Leu
 166 35 40 45
 167 Pro Pro Pro Val His Leu Pro Pro Pro Val His Leu Pro Pro Pro Val
 168 50 55 60
 169 His Leu Pro Pro Pro Val His Val Pro Pro Pro Val His Leu Pro Pro
 170 65 70 75 80
 171 Pro Pro Cys His Tyr Pro Thr Gln Pro Pro Arg Pro Gln Pro His Pro
 172 85 90 95
 173 Gln Pro His Pro Cys Pro Cys Gln Gln Pro His Pro Ser Pro Cys Gln
 174 100 105 110
 175 Leu Gln Gly Thr Cys Gly Val Gly Ser Thr Pro Ile Leu Gly Gln Cys
 176 115 120 125
 177 Val Glu Phe Leu Arg His Gln Cys Ser Pro Thr Ala Thr Pro Tyr Cys
 178 130 135 140
 179 Ser Pro Gln Cys Gln Ser Leu Arg Gln Gln Cys Cys Gln Gln Leu Arg
 180 145 150 155 160
 181 Gln Val Glu Pro Gln His Arg Tyr Gln Ala Ile Phe Gly Leu Val Leu
 182 165 170 175
 183 Gln Ser Ile Leu Gln Gln Pro Gln Ser Gly Gln Val Ala Gly Leu
 184 180 185 190
 185 Leu Ala Ala Gln Ile Ala Gln Gln Leu Thr Ala Met Cys Gly Leu Gln
 186 195 200 205
 187 Gln Pro Thr Pro Cys Pro Tyr Ala Ala Ala Gly Gly Val Pro His
 188 210 215 220
 191 <210> SEQ ID NO: 8
 192 <211> LENGTH: 693
 193 <212> TYPE: DNA
 194 <213> ORGANISM: maize

RAW SEQUENCE LISTING
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197 <221> NAME/KEY: CDS
198 <222> LOCATION: (1)...(693)
200 <400> SEQUENCE: 8
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202 Met Arg Val Leu Leu Ala Ala Leu Ala Ala Leu Ala Ala Ser
203 1 5 10 15
205 gcc acc tcc acg cat aca agc ggc ggc tgc ggc tgc cag cca ccg ccg 96
206 Ala Thr Ser Thr His Thr Ser Gly Gly Cys Gly Cys Gln Pro Pro Pro
207 20 25 30
209 ccg gtt cat cta ccg ccg gtc cat ctg cca cct ccg gtt cac ctg 144
210 Pro Val His Leu Pro Pro Val His Leu Pro Pro Pro Val His Leu
211 35 40 45
213 cca cct ccg gtg cat ctc cca ccg ccg gtc cac ctg ccg ccg ccg gtc 192
214 Pro Pro Pro Val His Leu Pro Pro Pro Val His Leu Pro Pro Pro Val
215 50 55 60
217 cac ctg cca ccg ccg gtc cat gtg ccg ccg ccg gtt cat ctg ccg ccg 240
218 His Leu Pro Pro Pro Val His Val Pro Pro Pro Val His Leu Pro Pro
219 65 70 75 80
221 cca cca tgc cac tac act caa ccg ccc ccg atc gaa ttc aaa cca 288
222 Pro Pro Cys His Tyr Pro Thr Gln Pro Pro Arg Ile Glu Phe Lys Pro
223 85 90 95
225 aag cca aag ccg aag cca aaa gaa ttc aaa cca aag cca aag ccg aag 336
226 Lys Pro Lys Pro Lys Glu Phe Lys Pro Lys Pro Lys Pro Lys Pro
227 100 105 110
229 cca aaa gaa ttc ctg cag ccc ctg cag gga acc tgc ggc gtt ggc agc 384
230 Pro Lys Glu Phe Leu Gln Pro Leu Gln Gly Thr Cys Gly Val Gly Ser
231 115 120 125
233 acc ccg atc ctg ggc cag tgc gag ttt ctg agg cat cag tgc agc 432
234 Thr Pro Ile Leu Gly Gln Cys Val Glu Phe Leu Arg His Gln Cys Ser
235 130 135 140
237 ccg acg ccg acg ccc tac tgc tcg cct cag tgc cag tcg ttg ccg ccg 480
238 Pro Thr Ala Thr Pro Tyr Cys Ser Pro Gln Cys Gln Ser Leu Arg Gln
239 145 150 155 160
241 cag tgt tgc cag cag ctc agg cag gtg gag ccg cag cac ccg tac cag 528
242 Gln Cys Cys Gln Gln Leu Arg Gln Val Glu Pro Gln His Arg Tyr Gln
243 165 170 175
245 gcg atc ttc ggc ttg gtc ctc cag tcc atc ctg cag cag ccg cca 576
246 Ala Ile Phe Gly Leu Val Leu Gln Ser Ile Leu Gln Gln Pro Gln
247 180 185 190
249 agc ggc cag gtc gcg ggg ctg ttg gcg cag ata gcg cag caa ctg 624
250 Ser Gly Gln Val Ala Gly Leu Ala Ala Gln Ile Ala Gln Gln Leu
251 195 200 205
253 acg gcg atg tgc ggc ctg cag cag ccg act cca tgc ccc tac gct gct 672
254 Thr Ala Met Cys Gly Leu Gln Gln Pro Thr Pro Cys Pro Tyr Ala Ala
255 210 215 220
257 gcc ggc ggt gtc ccc cac tga
258 Ala Gly Gly Val Pro His *
259 225 230

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Input Set : A:\50062.004001.SEQLIST.TXT
 Output Set: N:\CRF3\10272000\I117246.raw

262 <210> SEQ ID NO: 9.
 263 <211> LENGTH: 230
 264 <212> TYPE: PRT
 265 <213> ORGANISM: maize
 267 <400> SEQUENCE: 9
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 270 Ala Thr Ser Thr His Thr Ser Gly Gly Cys Gly Cys Gln Pro Pro Pro
 271 20 25 30
 272 Pro Val His Leu Pro Pro Pro Val His Leu Pro Pro Pro Val His Leu
 273 35 40 45
 274 Pro Pro Pro Val His Leu Pro Pro Pro Val His Leu Pro Pro Pro Val
 275 50 55 60
 276 His Leu Pro Pro Pro Val His Val Pro Pro Pro Val His Leu Pro Pro
 277 65 70 75 80
 278 Pro Pro Cys His Tyr Pro Thr Gln Pro Pro Arg Ile Glu Phe Lys Pro
 279 85 90 95
 280 Lys Pro Lys Pro Lys Pro Lys Glu Phe Lys Pro Lys Pro Lys Pro Lys
 281 100 105 110
 282 Pro Lys Glu Phe Leu Gln Pro Leu Gln Gly Thr Cys Gly Val Gly Ser
 283 115 120 125
 284 Thr Pro Ile Leu Gly Gln Cys Val Glu Phe Leu Arg His Gln Cys Ser
 285 130 135 140
 286 Pro Thr Ala Thr Pro Tyr Cys Ser Pro Gln Cys Gln Ser Leu Arg Gln
 287 145 150 155 160
 288 Gln Cys Cys Gln Gln Leu Arg Gln Val Glu Pro Gln His Arg Tyr Gln
 289 165 170 175
 290 Ala Ile Phe Gly Leu Val Leu Gln Ser Ile Leu Gln Gln Gln Pro Gln
 291 180 185 190
 292 Ser Gly Gln Val Ala Gly Leu Leu Ala Ala Gln Ile Ala Gln Gln Leu
 293 195 200 205
 294 Thr Ala Met Cys Gly Leu Gln Gln Pro Thr Pro Cys Pro Tyr Ala Ala
 295 210 215 220
 296 Ala Gly Gly Val Pro His
 297 225 230
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 311 Met Arg Val Leu Leu Val Ala Leu Ala Leu Leu Ala Ala Ser
 312 1 5 10 15
 314 gcc acc tcc acg cat aca agc ggc ggc tgc ggc tgc cag cca ccg ccg 96
 315 Ala Thr Ser Thr His Thr Ser Gly Gly Cys Gly Cys Gln Pro Pro Pro
 316 20 25 30

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VERIFICATION SUMMARY DATE: 10/27/2000
PATENT APPLICATION: US/09/117,246 TIME: 13:45:02

Input Set : A:\50062.004001.SEQLIST.TXT
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